



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,258	02/22/2005	Gordon Alastair Bell	PPD 70111	5001

26748 7590 12/01/2008
SYNGENTA CROP PROTECTION, INC.
PATENT AND TRADEMARK DEPARTMENT
410 SWING ROAD
GREENSBORO, NC 27409

EXAMINER

BROOKS, KRISTIE LATRICE

ART UNIT	PAPER NUMBER
----------	--------------

1616

MAIL DATE	DELIVERY MODE
-----------	---------------

12/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,258

Applicant(s)

BELL, GORDON ALASTAIR

Examiner

KRISTIE L. BROOKS

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 2/25/05

DETAILED ACTION

Status of Application

1. Claims 1 and 4-13 are pending.
 2. Receipt and consideration of Applicants remarks filed on April 9, 2008 is acknowledged.
 3. Rejections not reiterated from the previous Office Action are hereby withdrawn.
- The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Ground of Rejection Necessitated by Applicants Amendment

Claim Rejections - 35 USC § 103

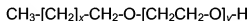
4. Claims 1, 4-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagedorn et al. (US 5,650,102) in view of Chadwick et al (US 5,229,122).

Applicant claims a microencapsulated agrochemical composition comprising an aqueous dispersion of microcapsules having material encapsulated therein wherein the material encapsulated within the microcapsules comprises (a) an agrochemical (b) a water-insoluble, bioperformance-enhancing adjuvant of formula (I) and (c) a water-immiscible solvent in which both the agrochemical and adjuvant are soluble.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Hagedorn et al. teach the preparation of microcapsule dispersions by an interface polyaddition process in which an oil-in-water emulsion is prepared from an oily phase, which comprises the substance to be encapsulated and a lipophilic substance capable of polyaddition, and an aqueous phase, and the reaction partner required for the polyaddition is then added to the aqueous phase, capsules with smaller particle sizes are obtained, with a saving in emulsifying energy, if an oil-soluble emulsifier is added to the oily phase before the emulsification (see the entire article, especially the abstract and column 2 lines 5-13). The substances that can be encapsulated include plant protection agents and insecticides (see the entire article, especially column 1 lines 10-12). The preferred oil-soluble emulsifiers are fatty acid esters, fatty amides, polyglycol ethers, polypropylene glycol ethers such as those with alcohols, thiols and carboxylic acid esters and fatty alcohol polyglycol ethers of the formula



in which x is an integer from 10 to 16 and y is an integer from 4 to 12 (see the entire article, especially column 2 lines 36-45). The lipophilic substances capable of polyaddition are aromatic, aliphatic and naphthenic hydrocarbons and mixtures thereof, chlorinated paraffin's, naturally occurring oils of animal and vegetable origin, naturally occurring fats, and aromatic and aliphatic ethers (see the entire article, especially column 2 lines 64-67 through column 3 lines 1-8).

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

Hagedorn et al. do not teach an exemplified formulation of the combined components as claimed by Applicant. Hagedorn et al. do not teach the mean diameter of the capsules being less than 2 microns. These deficiencies are cured by the teachings of Chadwick et al. (US 5,229,122).

Chadwick et al. teach microencapsulated pesticidal formulations wherein the term "microcapsules" refer to capsules having an average diameter between 1 and 100 microns (see the abstract and column 1 lines 29-33).

**Finding of prima facie obviousness
Rational and Motivation (MPEP 2142-2143)**

One of ordinary skill in the art would have been motivated to do this because Hagedorn et al. suggest a microcapsule dispersion comprising insecticides or plant protection agents, and utilizing emulsifiers (i.e. adjuvant) such as fatty alcohol polyglycol ethers and lipophilic substances (i.e. water immiscible solvent) such as hydrocarbons and paraffin's.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to make a microencapsulated agrochemical composition comprising an agrochemical, a water-insoluble, bioperformance-enhancing adjuvant

and a water-immiscible solvent since these are all common components used to in microencapsulated agrochemical compositions.

Furthermore, although Hagedorn et al. do not teach the mean diameter of the microcapsule of less than 2 microns, it would have been obvious to one of ordinary skill in the art to prepare microcapsules with the instant mean diameter, because the term microcapsule generally encompasses a capsule with a average diameter range of 1 to 100 microns as suggested by Chadwick et al. Thus, the instant mean diameter range of microcapsules s well known in the art and encompassed by the prior art.

With regard to the limitation, "a total polymer wall concentration of less than 3% by weight of the total composition", it is the Examiner's position, absence evidence to the contrary, the limitation would be met.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

6. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagedorn et al. (US 5,650,102), in view of Chadwick et al (US 5,229,122), further in view of Obayashi et al. (US 4,886,656).

Applicant claims a microencapsulated agrochemical composition comprising an aqueous dispersion of microcapsules having material encapsulated therein wherein the

material encapsulated within the microcapsules comprises (a) an agrochemical (b) a water-insoluble, bioperformance-enhancing adjuvant for said agrochemical wherein said adjuvant has little or no surfactant properties and (c) a water-immiscible solvent in which both the agrochemical and adjuvant are soluble.

Determination of the scope and content of the prior art
(MPEP 2141.01)

The disclosure of Hagedorn et al. (US 5,650,102) has been set forth above. Specifically, Hagedorn et al. teach a microcapsule dispersion comprising insecticides or plant protection agents, and utilizing emulsifiers, which include polyglycol ethers, polypropylene glycol ethers such as those with alcohols, thiols and carboxylic acid esters and fatty alcohol polyglycol ethers fatty alcohol polyglycol ethers and lipophilic substances such as hydrocarbons and paraffin's.

Chadwick et al. teach microencapsulated pesticidal formulations wherein the term "microcapsules" refer to capsules having a average diameter between 1 and 100 microns (see the abstract and column 1 lines 29-33).

Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)

Hagedorn et al. do not specifically teach a lipophilic agrochemical claimed by Applicant. This deficiency is cured by the teachings of Obayashi et al.

Obayashi et al. teach an agrochemical formulation and method for reducing toxicity to fishes and shellfishes when applied to paddy fields comprising a lipophilic agriculturally active ingredient, and an organic compound (see the entire article, especially the abstract and column 1 lines 1-40 and 52-57). The lipophilic agriculturally active ingredients are compounds that have insecticidal, bactericidal, herbicidal activity and have lipophilic properties (see the entire article, especially column 1 lines 58-61).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to use a lipophilic agrochemical because Hagedorn et al. suggest a microcapsule dispersion comprising agrochemicals (i.e. insecticides or plant protection agents).

Although Hagedorn et al. do not specify whether the insecticides or plant protection agents are lipophilic, it would be obvious to one of ordinary skill in the art at the time the claimed invention was made because agricultural formulations comprising lipophilic insecticides are useful in reducing the toxicity to fish and shell fishes when applied to paddy fields as suggested by Obayashi et al.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

7. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagedorn et al. (US 5,650,102), in view of Chadwick et al (US 5,229,122), further in view of Roberts (US 5,580,567).

Applicant claims a microencapsulated agrochemical composition comprising an aqueous dispersion of microcapsules having material encapsulated therein wherein the material encapsulated within the microcapsules comprises (a) an agrochemical (b) a water-insoluble, bioperformance-enhancing adjuvant for said agrochemical wherein said adjuvant has little or no surfactant properties and (c) a water-immiscible solvent in which both the agrochemical and adjuvant are soluble.

Determination of the scope and content of the prior art
(MPEP 2141.01)

The disclosure of Hagedorn et al. (US 5,650,102) has been set forth above. Specifically, Hagedorn et al. teach a microcapsule dispersion comprising insecticides or plant protection agents, and utilizing emulsifiers, which include polyglycol ethers, polypropylene glycol ethers such as those with alcohols, thiols and carboxylic acid

esters and fatty alcohol polyglycol ethers fatty alcohol polyglycol ethers and lipophilic substances such as hydrocarbons and paraffin's.

Chadwick et al. teach microencapsulated pesticidal formulations wherein the term "microcapsules" refer to capsules having a average diameter between 1 and 100 microns (see the abstract and column 1 lines 29-33).

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

Hagedorn et al. do not teach the adjuvant having formula (II). This deficiency is cured by the teachings of Roberts.

Roberts teach a homogenous, essentially nonaqueous adjuvant composition to improve the chemical and physical properties of a pesticides, such as an herbicide, insecticide or fungicide comprising a spray oil, a blend of surfactants and a buffering agent that when combined with a pesticide, the composition becomes a more uniform spread of the spray solution of the herbicide or pesticide (see the entire article, especially the abstract, column 1 lines 11-17 and column 2 lines 58-64). The preferred surfactants include peg esters of the formula



where $R=C_2-C_{25}$ fatty alkyl, $R'=C_2-C_{25}$ fatty alkyl and $m=1$ to 100 (see the entire article, especially column 3 lines 34-41).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to use an adjuvant having formula (I) because Hagedorn et al. suggest a microcapsule dispersion comprising insecticides and adjuvants (i.e. polyglycol ethers, polypropylene glycol ethers such as those with alcohols, thiols, etc.).

Although Hagedorn et al. do not suggest the instant adjuvant of formula (II), it would be obvious to one of ordinary skill in the art at the time the claimed invention was made to use an adjuvant having formula (II), because the instant adjuvants (e.g. peg esters) are useful in improving the chemical and physical properties of insecticides as suggested by Roberts. Thus, the instant compounds it is an obvious variation of surfactants that may be used in the agrochemical formulations.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

Response to Arguments

Applicant's arguments filed April 9, 2008 have been fully considered but they are not persuasive.

Applicant argues that the preparation of microcapsules in Hagedorn et al. teach the adjuvant will locate at the oil/water interface instead of residing inside the capsules.

Applicant further states that the adjuvant is being added to the oil phase prior to emulsification, rather than the aqueous phase.

This argument is not persuasive. First, it should be noted that Applicant is claiming a composition and not a method of making. Furthermore, the process and order in which the adjuvant is added to the composition in Hagedorn et al., is the exact same process and order in which the adjuvant is added in the instant specification (see Example 1 on page 7). Therefore, absent evidence to the contrary, the final product would be the same.

Applicant's arguments of nonobviousness are not persuasive and the rejection is maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie L. Brooks whose telephone number is (571) 272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Johann R. Richter/
Supervisory Patent Examiner, Art Unit 1616